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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,697	10/31/2001	Frank J. Kronzer	NPI-14 (16326.1)	2526

22827 7590 03/06/2006

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EXAMINER	
DICUS, TAMRA	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/003,697	KRONZER, FRANK J.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11-01-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim 58 rejected under 35 U.S.C. 112, second paragraph, is withdrawn due to Applicant's arguments.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 31-65 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,916,751 to Kronzer in view of USPN 5,468,532 to Ho et al.

Kronzer claims a heat transfer material comprising a base substrate; a first layer overlying the base substrate; a second layer overlying the first layer where both first and second layers are melt-flowable at a transfer temperature; and a release layer therebetween. The same melting ranges are claimed also (new instant claims 61-65). See patented claims 1-20. Despite the difference in wording to a non-transferable portion and transferable portion, the same layers, made of the same material, in the same structure is claimed by Kronzer, and thus would be expected to perform in the same way as presently claimed. See col. 4, lines 55-57 and Abstract.

The results from causing the peelable film to melt and flow (claim 58) and that the polymer layer doesn't become fluid at a transfer temperature (claims 58-65) is also inherent as the same materials are employed. Kronzer does not claim the first layer having pigment and a crosslinker. Ho teaches crosslinking agents epoxy and polyfunctional aziridine are incorporated with acrylic polymers in thermal transfer media in ink compositions containing white pigment in one or two continuous or discontinuous layers (col. 3, lines 28-45, col. 4, lines 1-21 and 55-68, and col. 5, lines 1-5, FIG. 1 and 2) serving to adjust melt flow characteristics (Examples and Abstract).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included crosslinking agents epoxy and polyfunctional aziridine incorporated with acrylic polymers in thermal transfer media in ink compositions containing white pigment in a continuous or discontinuous layers as claimed because the composition serves to adjust melt flow characteristics (col. 3, lines 28-45, col. 4, lines 1-21 and 42-68, and col. 5, lines 1-5, FIG. 1 and 2, Examples and Abstract of Ho).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 31-40, 42-45, 47-54, 56-57, and 59-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,863,781 to Kronzer in view of USPN 5,468,532 to Ho et al.

Kronzer teaches a heat transfer material and method comprising: a substrate layer of paper webs or plastic films (instant claims 42, 47, and 56) (Kronzer, 12, FIG 1 and associated

text); a release coating layer of acrylic polymer ethylene-methacrylic acid copolymer (Kronzer, 18, FIG 1 and associated text; col. 5, lines 44-45) (instant claims 40, 45 and 54); a peelable film layer overlying said release coating layer, wherein said peelable film laver is melt-flowable at a transfer temperature (Kronzer, Abstract and 20, FIG 1 and associated text, functional equivalency to conformable layer as in Applicant's specification, page 8, [0025] where the peelable layer is to conform to a substrate made of a melt index less than 800 as determined by ASTM D1238-82; see col. 3, lines 33-40 and col. 5, lines 15-26 of Kronzer teaching conformable layer is of the same ethylene vinyl acetate copolymer and wax (instant claims 31, 39, 43-44, and 52-53) having a melt index greater than 30 to assist in the transfer of vinyl ink because of its inherent nature it will when heated soften and flow) ; and a polymer layer including an opacifying material, said opaque polymer layer overlying said peelable film layer (Kronzer, 22, FIG 1 and associated text, printed vinyl resin white ink (instant claim 32, 35, 48, 51), see col. 3, line 39, col. 4, lines 15-21 and lines 50-55, col. 5, lines 15-65, and col. 6, line 25).

Kronzer explains any conventional ink may be used in continuous or discontinuous layers and teaches inks are generally composed of a vinyl resin and pigments, but does not teach a crosslinking agent /crosslinked polymer or printable layer or that it is of epoxy or multifunctional aziridine in adjacent opaque crosslinked layers (instant claims 31, 33-34, 36-37, 43, 48-50, 52, 57, and 59-60).

Ho teaches crosslinking agents epoxy and polyfunctional aziridine are incorporated with acrylic polymers, a species of vinyl, (crosslinking agent + resin binder, forming crosslinked polymer) in thermal or hot transfer media in ink compositions containing white pigment in continuous or discontinuous adjacent layers (col. 3, lines 28-45, col. 4, lines 1-21 and 55-68, col.

5, lines 1-10 and col. 7, line 51) serving to adjust melt flow characteristics (Examples and Abstract).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included crosslinking agents epoxy and polyfunctional aziridine incorporated with acrylic polymers (crosslinking agent + resin binder, forming crosslinked polymer) in thermal transfer media in ink compositions containing white pigment in one or two continuous or discontinuous polymer or printable layers because the composition serves to adjust melt flow characteristics (col. 3, lines 28-45, col. 4, lines 1-21 and 42-68, col. 5, lines 1-10 and col. 7, line 51, Examples and Abstract of Ho).

Regarding instant claims 38, 62 and 65, the capability of being able to be printed by an ink jet printer and not becoming fluid at a transfer temperature is met because the materials used in the crosslinked printable layer is the same. Also regarding the non-transferable and transferable portions, despite the difference in wording to a non-transferable portion and transferable portion, the same layers, made of the same material, in the same structure is claimed by Kronzer, and thus would be expected to perform in the same way as presently claimed.

Claims 41, 46, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,863,781 to Kronzer in view of USPN 5,468,532 to Ho et al. and further in view of USPN 5,879,790 to Sogabe et al.

Kronzer and Ho are applied above.

Kronzer nor Ho teach a release-modifying agent (instant claims 41, 46, and 55).

Sogabe teaches a color ink layer containing the same coloring agent, binders of vinyl resins and epoxy resins used in combination with a release layer in order to adjust the melt index

in heat or thermal transfer sheets. Sogabe teaches release-modifying agents such as wax and heat-meltable resins such as acrylic resins are used in combination within release layers for the purpose of assisting in transfer and adjusting melt flow (col. 5, lines 3-68-col. 6, lines 10, col. 5, line 40-68 – col. 6, line 7 and Table 1).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer and Ho to have included release-modifying agents because Sogabe teaches release-modifying agents help adjust melt flow and assist in overall transferability in heat transfers (col. 5, line 40-68 – col. 6, line 7 of Sogabe).

Claims 52-56 and 59-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,863,781 to Kronzer in view of USPN 5,362,548 to Hiyoshi et al.

Kronzer teaches a heat transfer material and method comprising: a substrate layer of paper webs or plastic films (instant claim 56) (Kronzer, 12, FIG 1 and associated text); a release coating layer of acrylic polymer ethylene-methacrylic acid copolymer (Kronzer, 20, FIG 1 and associated text; col. 5, lines 44-45) (instant claim 54); a peelable film layer overlying said release coating layer, wherein said peelable film laver is melt-flowable at a transfer temperature (Kronzer, Abstract and 18, FIG 1 and associated text, functional equivalency to conformable layer as in Applicant's specification, page 8, [0025] where the peelable layer is to conform to a substrate made of a melt index less than 800 as determined by ASTM D1238-82; see col. 3, lines 33-40 and col. 5, lines 15-26 of Kronzer teaching conformable layer is of the same ethylene vinyl acetate copolymer and wax (instant claims 52-53) having a melt index greater than 30 to assist in the transfer of vinyl ink because of its inherent nature it will when heated soften and flow) ; and

a polymer layer including an opacifying material, said opaque polymer layer overlying said peelable film layer (Kronzer, 22, FIG 1 and associated text, printed vinyl resin white ink (instant claim 32, 35, 48, 51), see col. 3, line 39, col. 4, lines 15-21 and lines 50-55, col. 5, lines 15-65, and col. 6, line 25).

Kronzer explains any conventional ink may be used in continuous or discontinuous layers and teaches inks are generally composed of vinyl resin and pigments, but does not teach a crosslinking agent /crosslinked polymer or that it is of epoxy (instant claims 52, 56, and 59-60).

Hiyoshi teaches a color ink layer containing a coloring agent, binders of vinyl resins and epoxy resins (crosslinking agent forming a crosslinked polymer layer) at col. 7, lines 25-65– col. 8, line 25) used in combination in order to impart adhesion strength in heat or thermal transfer sheets.

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included a crosslinking agent forming a crosslinked polymer layer in the ink layer because Hiyoshi teaches crosslinking agents help impart adhesion strength in heat or thermal transfer sheets (col. 7, lines 25-65– col. 8, line 25of Hiyoshi).

Kronzer does not teach a release-modifying agent (instant claim 55).

Hiyoshi teaches release-modifying agents such as wax and heat-meltable resins such as acrylic resins are used in combination within multifunctional release and ink layers for the purpose of assisting in transfer and adjusting melt flow (col. 6, lines 58-68-col. 7, lines 31, col. 8, lines 18-25 and line 49).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included release-modifying agents because Hiyoshi teaches release-

modifying agents help adjust melt flow and assist in overall transferability in heat transfers (col. 6, lines 58-68-col. 7, lines 31, col. 8, lines 18-25 and line 49 of Hiyoshi).

Regarding instant claims 62 and 65, not becoming fluid at a transfer temperature is met because the materials used in the crosslinked printable layer is the same. Also regarding the non-transferable and transferable portions, despite the difference in wording to a non-transferable portion and transferable portion, the same layers, made of the same material, in the same structure is claimed by Kronzer, and thus would be expected to perform in the same way as presently claimed.

Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,863,781 to Kronzer in view of USPN 5,468,532 to Ho et al. and further in view of USPN 6,582,803 to Cole et al.

Kronzer teaches a heat transfer material and method comprising: a substrate layer of paper webs or plastic films (Kronzer, 12, FIG 1 and associated text); a release coating layer of acrylic polymer ethylene-methacrylic acid copolymer (Kronzer, 18, FIG 1 and associated text; col. 5, lines 44-45) (instant claims 40, 45 and 54); a peelable film layer overlying said release coating layer, wherein said peelable film laver is melt-flowable at a transfer temperature (Kronzer, Abstract and 20, FIG 1 and associated text, functional equivalency to conformable layer as in Applicant's specification, page 8, [0025] where the peelable layer is to conform to a substrate made of a melt index less than 800 as determined by ASTM D1238-82; see col. 3, lines 33-40 and col. 5, lines 15-26 of Kronzer teaching conformable layer is of the same ethylene vinyl acetate copolymer and wax having a melt index greater than 30 to assist in the transfer of vinyl

ink because of its inherent nature it will when heated soften and flow) ; and a polymer layer including an opacifying material, said opaque polymer layer overlying said peelable film layer (Kronzer, 22, FIG 1 and associated text, printed vinyl resin white ink (instant claim 58), see col. 3, line 39, col. 4, lines 15-21 and lines 50-55, col. 5, lines 15-65, and col. 6, line 25).

Kronzer explains any conventional ink may be used in continuous or discontinuous layers and teaches inks are generally composed of vinyl resin and pigments, but does not teach a crosslinking agent /crosslinked polymer or that it is of epoxy or multifunctional aziridine in adjacent layers (instant claim 58).

Ho teaches crosslinking agents epoxy and polyfunctional aziridine are incorporated with acrylic polymers, a species of vinyl (crosslinking agent + resin binder, forming crosslinked polymer, printable) in thermal or hot transfer media in ink compositions containing white pigment in continuous or discontinuous adjacent layers (col. 3, lines 28-45, col. 4, lines 1-21 and 42-68, col. 5, lines 1-10 and col. 7, line 51) serving to adjust melt flow characteristics (Examples and Abstract).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included crosslinking agents epoxy and polyfunctional aziridine incorporated with acrylic polymers (crosslinking agent + resin binder, forming crosslinked polymer) in thermal transfer media in ink compositions containing white pigment in one or two continuous or discontinuous polymer or printable layers because the composition serves to adjust melt flow characteristics (col. 3, lines 28-45, col. 4, lines 1-21 and 55-68, col. 5, lines 1-10 and col. 7, line 51, Examples and Abstract of Ho).

While Kronzer and Ho teach the overall structure, Kronzer also teaches that layers 18 and 20 are releasable (col. 4, lines 52-55), but neither reference expressly teach removing a non-transferable portion from a transferable portion and applying heat and pressure to the exposed opaque crosslinked polymer layer thereby causing the peelable film to melt and flow.

Cole teaches a similar construction where removable panels of release coated paper in image transfer media are peeled away from the film coating to apply an image to T-shirts by using an ordinary household iron or heat press (Abstract, col. 2, lines 10-35 and col. 4, lines 25-40).

It would have been obvious to one having ordinary skill in the art to modify the combination to remove a non-transferable portion from a transferable portion by applying heat and pressure because Cole teaches removing panels of release coated paper substrates peel away from the film coating to apply an image to a T-Shirt (Abstract, col. 2, lines 10-35 and lines 59+ of Cole). The after-effects of the peelable film melting and flowing is expected because the same material and process is utilized.

Prior Art of Interest

USPN 6,114,021 to Pankratz et al. teaches a coated transfer film having polyfunctionalaziridine and epoxy resin are equivalents used as crosslinking agents used in transfer media at col. 1, lines 11-15 and col. 2, lines 15-20.

USPN 6,113,725 to Kronzer teaches a method of making a printed material having cold release properties.

USPN 5,879,790 to Sogabe et al. teaches a color ink layer containing the same coloring agent, binders of vinyl resins and epoxy resins used in combination with a release layer in order to adjust the melt index in heat or thermal transfer sheets. Sogabe teaches release-modifying agents such as wax and heat-meltable resins such as acrylic resins are used in combination within release layers for the purpose of assisting in transfer and adjusting melt flow (col. 5, lines 3-68- col. 6, lines 10, col. 5, line 40-68 – col. 6, line 7 and Table 1).

Response to Arguments

Applicant's arguments filed 12-22-05 have been fully considered but they are not persuasive.

Applicant does not contest the non-statutory double patenting and is in agreement with considering providing a terminal disclaimer to overcome the rejection, but has not submitted the terminal disclaimer to date. Thus, the Double Patenting rejection is sustained.

Applicant argues the combination of Kronzer and Ho stating that claim 31 requires a peelable film melt-flowable at a temperature and points to a cross-linked three-dimensional structure at page 10, lines 9-12 of the instant specification. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., cross-linked three-dimensional structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues Kronzer fails to provide motivation and alleges the combination of Kronzer and Ho is a hindsight rejection. Applicant has not provided a persuasive argument.

Kronzer teaches all the requirements in the claims except for adding a crosslinker. As previously set forth, Kronzer teaches any generic vinyl ink (see col. 4, lines 15-22) may be used and applies it to layers of ethylene-acrylic and acrylic and polyvinyl acetate layers (col. 4, line 50-col. 5, line 52), thus providing motivation. Ho, discloses an acrylic ink, which is a species of vinyl including a crosslinker and applied to layers of ethylene acrylic also for the purpose of affecting melt flow and other characteristics (col. 3, lines 25-50, col. 4, line 5-col. 5, line 55).

Applicant argues that the motivation of Ho would not be to use crosslinked binders in the color layer to the release of Kronzer. The Examiner agrees, as previously set forth, Ho was used to teach adding the ingredients of the color layer of Ho to the ink layer of Kronzer, not to the release layer. Applicant's instant claims require an opaque crosslinked layer and the combination provides such.

Applicant argues Kronzer in view of Hiyoshi to claims 52-56 and 59-65.

Applicant argues that the release layer overlies the ink layer to protect the ink in Kronzer. However, this is not found because the ink layer overlies the release layer as explicitly shown in the Figures 1, 2 and 4. Applicant argues that the motivation of Hiyoshi would not be to use crosslinked binders in the color layer to the release of Kronzer. The Examiner agrees, as previously set forth, Hiyoshi was used to teach adding the ingredients of the color layer of Hiyoshi to the ink layer of Kronzer, not to the release layer. Applicant's instant claims require an opaque crosslinked layer and the combination provides such.

Applicant argues claims 58 and 59 to the methods and argues removing a non-transferable portion and placing the peelable layer on the surface with the opaque crosslinked polymer layer exposed is not taught. However, Cole was used to teach a similar construction

where removable panels of release coated paper in image transfer media are peeled away from the film coating to apply an image to T-shirts (the image-bearing surface) by using an ordinary household iron or heat press (Abstract, col. 2, lines 10-35 and col. 4, lines 25-40). The after-effects of the peelable film melting and flowing is expected because the same material and process is utilized. The rejections are maintained for reasons of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tamra L. Dicus
Examiner
Art Unit 1774

02-24-06

RENA DYE
SUPERVISORY PATENT EXAMINER

A.U. 1774 2/28/06